

* SWBAT describe the forces in falling and terminal velocity

Sep 6-2:31 PM

Welcome!!!

H. Leslie Grebe

Centering...

* Pick up:

- slip of paper (for later)
- sheet of Cornell Notepaper

Opening Question:

A car takes 2 seconds to speed up from 35 mph to 45 mph, what is its acceleration?

$$a = \frac{\Delta v}{\Delta t} = \frac{45 - 35 \frac{\text{mi}}{\text{hr}}}{2 \text{ s.}} = \frac{10 \frac{\text{mi}}{\text{hr}}}{2 \text{ s.}} = 5 \text{ mi/hr/s}$$



SECA Physics
Tuesday 8 October 2013

Sep 7-7:04 AM

Catchy Physics Phrases: Speed, Velocity, Acceleration

Speed is

Change in distance over
change in time

Velocity is

Speed with direction

Acceleration is

Change in **velocity** over
change in time

Oct 4-7:27 AM

Of falling books and feathers...

- Make a prediction with brief explanation
- Make an observation

SPREAD OUT WASHERS

MADE AN EVEN SOUND ON PAN

LONGER OR FARTHER SOMETHING
FALLS, THE MORE DISTANCE IT COVERS PER SECOND
⇒ GRAVITY SPEEDS
THINGS UP

Book and Feather (boring):

Golf ball and ping pong ball:

2 Kleenex:

So, how could we get book and feather to fall the same???

Terminal Velocity: equilibrium (balanced forces)
when falling.



Oct 5-7:33 AM

Falling Objects Cornell notes sheet.pdf - Adobe Reader

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Questions:

Notes: **GRAVITY** SPEEDS THINGS UP
→ ACCELERATION

PREDICT OBS.

BOOK VS. FEATHER
GUESS WHY: **HEAVIER** **FLLOATING**
AIR PUSHING **SHAPE**

GOLF BALL VS. PING PONG
SAME **SHAPE**
SAME **VOLUME** DIFFERENT **MASS**

FLAT KLEENEX VS. CRUMPLED KLEENEX
SAME **VOLUME**
SAME **MASS** DIFFERENT **SHAPE**

→ How could Book & Feather Tie?
IN/ON BOOK, MOON, VACUUM JAR

TERMINAL VELOCITY IS THE
NAME FOR EQUILIBRIUM (BALANCED
FORCES) WHEN FALLING

F_{AIR}
F_{GRAV}

Oct 9-11:31 AM

Falling objects...

Spread out washers made evenly spaced sound

⇒ Things speed up as they fall

⇒ Objects cover more distance each second after being released

gravity accelerates

FEATHER & BALL IN VACUUM

<http://www.youtube.com/watch?v=4z8g8OSOMzY>

FEATHER & HAMMER ON MOON

http://www.youtube.com/watch?v=5C5_dOEyAfk

SKIDNING

<http://www.youtube.com/watch?v=ur40O6nQHsw>

TIME LEFT? POSN, VEL, & ACC IN
FOOTBALL

<http://www.nbclearn.com/nfl>

Oct 10-7:53 AM

Daily 3 Questions

- * Every day except test/project days
- * 3 Questions on the topics of the day
- * Main source of daily points
- * I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

You can't get your points if you don't have your **NAME!!!**

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1. As far as we could tell, which consistently hit the ground first?
 - A. the heavier golf ball
 - B. the lighter ping pong ball
 - ☒ C. it was a tie

MOON OR VACUUM JAR

2. When there is no air resistance, which is accelerated more?
 - A. a heavy object (hammer, metal ball, book)
 - B. a light object (feather)
 - ☒ C. they are accelerated the same

HITS THE GROUND FIRST

3. What is the name for equilibrium while falling?
 - ☒ A. Terminal Velocity
 - B. Acceleration
 - C. Inertia

Oct 8-7:33 AM